

Q fever

What is Q fever?

Q fever is a disease caused by the bacterium *Coxiella burnetii*. The disease can occur in two forms: acute (short-term) and chronic (long-term). Q fever has been reported from most parts of the world. However, this disease is rare in the U.S. For example, only four cases were reported in Virginia from 1987-2003.

Sheep, cattle and goats sometimes carry *C. burnetii*. It may rarely be carried by cats, dogs, rabbits, birds, rodents and ticks. The organism can also survive for long periods in the environment (e.g., in dust, wool, straw, fertilizer).

Who gets Q fever?

Anyone can get Q fever. However, people with frequent animal exposures (such as veterinarians, researchers, meat workers, and sheep and dairy farmers) are at the most risk.

How could a person be infected with Q fever?

Q fever is very rarely spread from person-to-person. The most common way of becoming infected is by breathing in dust contaminated by the birth fluids, urine or feces (stool) of infected animals. Direct contact with contaminated materials, such as wool, straw or fertilizer has also been associated with Q fever. In addition, Q fever may very rarely be caused by breathing in *C. burnetii* carried by the wind, by drinking raw milk from infected cows or by receiving blood or bone marrow transfusions from infected people.

Could Q fever be used for bioterrorism?

Yes. *C. burnetii* is one of the agents that could be used for bioterrorism because it is highly infectious, it is easy to obtain, and it would be easy to spread. Release of Q fever as a bioterrorism agent would likely be in the form of an aerosol.

What are the symptoms of Q fever?

About half of the people who get Q fever do not have any symptoms. People who develop acute Q fever may have a sudden onset of fever (up to 105° F), severe headache, muscle aches and a general feeling of illness. Fever usually lasts for one to two weeks, but may last as long as two months. More severe illness may include pneumonia or inflammation of the liver (hepatitis), heart (myocarditis/pericarditis) or brain (meningitis/encephalitis). Infection during pregnancy can cause miscarriage.

A small percentage of people infected with *C. burnetii* develop chronic Q fever. This most often involves infection of the heart valves, but can appear as hepatitis, bone infections (osteomyelitis) or chronic fatigue.

How soon after exposure do symptoms appear?

The symptoms of acute Q fever generally appear about two to three weeks after exposure. Chronic Q fever may occur months to years after exposure.

How is Q fever diagnosed and treated?

Q fever is diagnosed through special laboratory blood tests. Specific antibiotics can be prescribed by a doctor to treat Q fever. To be effective, treatment should start immediately and continue for several weeks. Chronic Q fever may require years of treatment with antibiotics and possibly heart valve replacement.

What can be done to prevent the spread of Q fever?

Avoid sources of infection and properly disinfect and dispose of animal materials such as hides, bedding, etc. People operating cow and sheep sheds, barns and laboratories that use such animals should restrict access to these facilities and use precautions. Milk from cows, goats and sheep should be consumed only if pasteurized. A Q fever vaccine is not available for use by the general public. No isolation or exclusion is necessary for persons with Q fever.